

## STATUS OF THE CLAIMS

The status of the claims of the current application stands as follows:

1. **(Currently Amended)** A method of inspecting a copy for defects of interest, comprising the steps of:

- a) providing an image signal containing a region of interest of the copy;
- b) transforming said image signal by a plurality of transform functions so as to obtain a plurality of conditioned image signals;
- c) extracting a plurality of residual defect signals using said plurality of conditioned image signals to determine the presence of defects of interest, wherein each residual defect signal of said plurality of residual defect signals corresponds to a respective one of said plurality of conditioned image signals; and
- d) performing a rule-based analysis on said plurality of residual defect signals;

wherein:

step c) includes:

- e) providing a data signal containing said region of interest of a standard; and
- f) extracting each residual defect signal of said plurality of residual defect signals using a corresponding one of said plurality of first conditioned images and said data signal; and

step f) includes:

- g) transforming said data signal by said plurality of transform functions so as to obtain a plurality of conditioned data signals; and
- h) extracting each residual defect signal of said plurality of defect signals using corresponding respective ones of said plurality of conditioned data signals and said plurality of conditioned image signals.

2. **(Canceled).**

3. **(Canceled).**

4. **(Currently Amended)** A method according to claim 31, wherein step h) comprises the step of subtracting each one of said plurality of conditioned image signals from a corresponding respective one of said plurality of conditioned data signals so as to obtain corresponding ones of said plurality of residual defect signals.
5. **(Currently Amended)** A method according to claim 31, wherein the copy includes at least one defined structure, at least one absence of said at least one defined structure and at least one edge of said at least one defined structure and the defects of interest include defects within said at least one defined structure, defects within said at least one absence and defects on said at least one edge.
6. **(Original)** A method according to claim 5, wherein said plurality of transforms comprises a first transform that enhances the defects of interest within said at least one defined structure, a second transform that enhances the defects of interest within said at least one absence and a third transform that enhances the defects of interest on said at least one edge.
7. **(Original)** A method according to claim 1, further comprising prior to step b) the step of preconditioning said image signal.
8. **(Original)** A method according to claim 7, wherein the step of preconditioning said image signal includes applying geometric corrections to said image signal.
9. **(Original)** A method according to claim 7, wherein the step of preconditioning said image signal includes applying photometric corrections to said image signal.
10. **(Currently Amended)** A method according to claim 31, further comprising prior to step g) the step of preconditioning said data signal.
11. **(Original)** A method according to claim 10, wherein the step of preconditioning said image signal includes performing a morphology.

12. **(Currently Amended)** A method according to claim 1, wherein said data image signal contains at least a portion of a CAD file.
13. **(Currently Amended)** A method according to claim 1, wherein said data image signal contains at least a portion of a golden image.
14. **(Original)** A method according to claim 1, wherein the copy includes at least one defined structure, at least one absence of said at least one defined structure and at least one edge of said at least one defined structure and the defects of interest include defects within said at least one defined structure, defects within said at least one absence and defects on said at least one edge.
15. **(Original)** A method according to claim 14, wherein said plurality of transforms comprises a first transform that enhances the defects of interest within said at least one defined structure, a second transform that enhances the defects of interest within said at least one absence and a third transform that enhances the defects of interest on said at least one edge.
16. **(Original)** A method according to claim 1, wherein said rule-based analysis includes the steps of determining the location of each one of the defects of interest relative to at least one structure of interest within said region of interest and reporting at least some of the defects of interest based upon their locations.
17. **(Original)** A method according to claim 1, wherein said rule-based analysis includes the step of determining whether each of the defects of interest is present in more than one of said plurality of residual defect signals.
18. **(Original)** A method according to claim 17, wherein said rule-based analysis includes the step of reporting only ones of the defects of interest present in more than one of said plurality of residual defect signals.

19. **(Original)** A method according to claim 1, wherein said rule-based analysis includes the step of determining the location of each of the defects of interest relative to one of a defined structure, an absence of said defined structure and an edge of said defined structure.
20. **(Original)** A method according to claim 19, wherein said rule-based analysis includes the steps of determining whether or not a defect of interest is exclusively within a defined structure, exclusively outside of said defined structure, or on an edge of said defined structure.

Claims 21-40: **(Canceled)**.

41. **(New)** A method of inspecting a copy for defects of interest, comprising the steps of:
- a) providing an image signal containing a region of interest of the copy;
  - b) transforming said image signal by a plurality of transform functions so as to obtain a plurality of conditioned image signals;
  - c) extracting a plurality of residual defect signals using said plurality of conditioned image signals to determine the presence of defects of interest, wherein each residual defect signal of said plurality of residual defect signals corresponds to a respective one of said plurality of conditioned image signals; and

d) performing a rule-based analysis on said plurality of residual defect signals;  
wherein:

the copy includes at least one defined structure, at least one absence of said at least one defined structure and at least one edge of said at least one defined structure and the defects of interest include defects within said at least one defined structure, defects within said at least one absence and defects on said at least one edge; and  
said plurality of transforms comprises a first transform that enhances the defects of interest within said at least one defined structure, a second transform that enhances the defects of interest within said at least one absence and a third transform that enhances the defects of interest on said at least one edge.

42. **(New)** A method according to claim 41, wherein step c) includes:
- e) providing a data signal containing said region of interest of a standard; and
  - f) extracting each residual defect signal of said plurality of residual defect signals using a corresponding one of said plurality of first conditioned images and said data signal.
43. **(New)** A method according to claim 42, wherein step f) includes:
- g) transforming said data signal by said plurality of transform functions so as to obtain a plurality of conditioned data signals; and
  - h) extracting each residual defect signal of said plurality of defect signals using corresponding respective ones of said plurality of conditioned data signals and said plurality of conditioned image signals.
44. **(New)** A method according to claim 43, wherein step h) comprises the step of subtracting each one of said plurality of conditioned image signals from a corresponding respective one of said plurality of conditioned data signals so as to obtain corresponding ones of said plurality of residual defect signals.
45. **(New)** A method according to claim 43, wherein the copy includes at least one defined structure, at least one absence of said at least one defined structure and at least one edge of said at least one defined structure and the defects of interest include defects within said at least one defined structure, defects within said at least one absence and defects on said at least one edge.
46. **(New)** A method according to claim 45, wherein said plurality of transforms comprises a first transform that enhances the defects of interest within said at least one defined structure, a second transform that enhances the defects of interest within said at least one absence and a third transform that enhances the defects of interest on said at least one edge.
47. **(New)** A method according to claim 41, further comprising prior to step b) the step of preconditioning said image signal.

48. (New) A method according to claim 47, wherein the step of preconditioning said image signal includes applying geometric corrections to said image signal.
49. (New) A method according to claim 47, wherein the step of preconditioning said image signal includes applying photometric corrections to said image signal.
50. (New) A method according to claim 43, further comprising prior to step g) the step of preconditioning said data signal.
51. (New) A method according to claim 50, wherein the step of preconditioning said image signal includes performing a morphology.
52. (New) A method according to claim 41, wherein said image signal contains at least a portion of a CAD file.
53. (New) A method according to claim 41, wherein said image signal contains at least a portion of a golden image.
54. (New) A method according to claim 41, wherein said rule-based analysis includes the steps of determining the location of each one of the defects of interest relative to at least one structure of interest within said region of interest and reporting at least some of the defects of interest based upon their locations.
55. (New) A method according to claim 41, wherein said rule-based analysis includes the step of determining whether each of the defects of interest is present in more than one of said plurality of residual defect signals.
56. (New) A method according to claim 55, wherein said rule-based analysis includes the step of reporting only ones of the defects of interest present in more than one of said plurality of residual defect signals.

57. **(New)** A method according to claim 41, wherein said rule-based analysis includes the step of determining the location of each of the defects of interest relative to one of a defined structure, an absence of said defined structure and an edge of said defined structure.
58. **(New)** A method according to claim 57, wherein said rule-based analysis includes the steps of determining whether or not a defect of interest is exclusively within a defined structure, exclusively outside of said defined structure, or on an edge of said defined structure.